U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-272/84-34
50-311/84-34

Docket No. 50-272
50-311

License No. DPR-70
DPR-75 Priority -- Category C

Licensee: Public Service Electric and Gas Company

P.O. Box 236

Hancocks Bridge, New Jersey 08038

Facility Name: Salem Nuclear Generating Station

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: September 17-21, 1984

Inspector: Richard K. Struckmeyer 10/18/84
Richard K. Struckmeyer, Radiation Specialist, DETP — date

Approved by: M. Shanbaky 10/18/84
Mohamed M. Shanbaky, Chief
Facilities Radiation Protection Section, RPB — date

Inspection Summary:
Inspection on September 17-21, 1984 (Combined Inspection Report Nos. 50-272/84-34; 50-311/84-34)

Areas Inspected: Routine, unannounced inspection of the licensee's radioactive waste management program. Areas reviewed included: management controls, radioactive effluent release records, effluent control procedures, instrument calibrations, testing of air cleaning systems, and training of personnel. The inspection involved 36 inspector-hours onsite by one regionally-based inspector.

Results: Within the areas inspected, two items of noncompliance were identified in two areas: Failure to follow procedure regarding field changes to ventilation system test procedures (details, section 6), and failure to follow training program procedures for requalifying chemistry technician (details, Section 7).

DETAILS

1. Individuals Contacted

Public Service Electric and Gas Company

R. Allen -	Technical Supervisor, Chemistry
W. Bacon -	Technical Supervisor, I&C
P. Behrens -	Technical Supervisor, Chemistry
R. Brandt -	Nuclear Plant Services Engineer
L. Catalfomo -	Operations Engineer
J. Clancy -	Senior Health Physicist, Radiation Protection Services
*R. Dolan -	Chemistry Engineer
G. Dziuba -	Technical Supervisor, Chemistry
*P. Galleshaw -	Operational Test Engineer
*J. Gomeringen -	Quality Assurance Engineer
*A. Michel -	Engineer, Operational Test Group
H. Miller -	Staff Engineer, Administration (Chemistry)
*L. Miller -	Assistant General Manager, Salem Operations
*R. Patwell -	Nuclear Licensing and Regulation Engineer
H. Pinelas -	Sr. Staff Engineer, Systems Engineering
*J. Ronafalvy -	Technical Manager, Salem Operations
R. Tupper -	Project Supervisor, Rad Services Inc.
D. Zak -	Technical Supervisor, Chemistry

U.S. Nuclear Regulatory Commission

*L. Norrholm -	Chief, Reactor Projects Section 2B
*R. Summers -	Resident Inspector

*Denotes those present at the exit interview on September 21, 1984.

2. Management Controls

The inspector reviewed the management structure as it pertains to the Salem Nuclear Generating Station liquid and gaseous effluent control program. Effluent release (discharge) permits and radiochemical analyses of reactor coolant are handled by the chemistry organization, which is headed by the Chemistry Engineer. This individual reports through the Technical Manager and Assistant General Manager to the General Manager - Salem Operations. The Semiannual Radioactive Effluent Release Reports are prepared by a corporate office Principal Staff Radiation Analyst, who reports through the Manager - Licensing and Analysis to the General Manager - Nuclear Assurance and Regulation.

Effluent monitor calibrations and functional tests are the responsibility of Instrumentation and Controls, headed by the I&C Engineer, who reports through the Technical Manager and Assistant General Manager to the General Manager - Salem Operations.

Tests of air cleaning (ventilation) systems, except for the monthly operability tests, are now performed by the Operational Test Group (OTG). This function has recently been transferred to OTG from Chemistry. The

Operational Test Engineer reports through the Nuclear Plant Services Engineer and the Nuclear Site Maintenance Engineer to the General Manager - Nuclear Services.

The monthly operability tests of ventilation systems are performed by Operations, headed by the Operating Engineer, who reports through the Operations Manager and the Assistant General Manager to the General Manager - Salem Operations.

3. Effluent Release Records

The inspector reviewed selected radioactive liquid and gaseous release permits, as well as associated procedures and calculations for 1983 and 1984. The inspector determined that procedural requirements were followed for calculation of quantities of gaseous and liquid effluents. The licensee's controls were adequate to ensure that Technical Specification Limits would not be exceeded under normal operating conditions. The inspector also reviewed the Semiannual Radioactive Effluent Release Reports which covered the periods from July 1 to December 31, 1983 and from January 1 to June 30, 1984. The licensee complied with regulatory requirements in this area.

4. Effluent Monitor Calibrations

The inspector examined the liquid and gaseous effluent monitor calibration and functional test records to determine compliance with Technical Specifications. The calibration frequency is at 18 month intervals for the electronics associated with each monitor channel. In addition, calibration checks are performed quarterly, in which each detector channel is exposed to a set of radioactive sources to determine whether the channel's response is within expected bounds. This is accomplished by the use of sources appropriate to the channel and type of detector (e.g., Ba-133 for an iodine detector), covering a three decade range of source strength. The inspector examined procedures and calibration data for 1983 and 1984, for all channels covered by the SNGS Technical Specifications, and determined that the licensee has been meeting its requirements in this area.

The inspector noted that several of the procedures for effluent monitor calibrations had undergone on-the-spot changes; and that a few had two or more such changes. These changes were made according to the method prescribed by Administrative Procedure 3, which requires completion of Form AP-3-1 and subsequent approval by the Station Operations Review Committee (SORC). However, the quantity and extent of these changes may, in some instances, cause the procedures to be cumbersome for use in performing the required tests. The licensee stated that the procedures will be examined, and if needed, will be simplified.

5. Reactor Coolant Chemistry

Analyses of dissolved oxygen, fluoride, chloride, I-131 dose equivalent, E-bar gross activity, and isotopic iodines (I-131, I-133, I-135) in the primary reactor coolant are required by the Technical Specifications. The inspector reviewed selected analytical results for 1983 and 1984 and found that the licensee is meeting its Technical Specifications requirement for frequency of analysis. The inspector also reviewed selected procedures in this area and found that the procedures were acceptable. The review of selected results did not disclose any instances in which Technical Specification limits for the primary coolant were exceeded.

6. Testing of Air Cleaning Systems

The inspector reviewed the licensee's air filtration system testing with regard to the Technical Specifications requirements, including HEPA filter and charcoal adsorber in-place tests, laboratory tests of carbon samples for methyl iodide removal, and operability tests for the various filter trains. Systems covered by Technical Specifications include, for both Unit 1 and Unit 2, the Control Room Emergency Air Conditioning System, the Auxiliary Building Exhaust Air Filtration System, and the Fuel Handling Area Ventilation System.

The licensee stated that responsibility for air filtration system testing recently had been transferred from Chemistry to the Operational Test Group (OTG). The inspector reviewed OTG's procedures for conducting the required tests. These procedures were adapted from those used by Chemistry, with some improvements. The inspector noted that further improvements to these procedures could be achieved by addition of steps that would make explicit some portions of the tests that are now implicit; e.g.:

(a) Procedures M9-TVP-CR-001, M9-TVP-AB-011, M9-TVP-AB-012, and M9-TVP-AB-013, which cover In-Place Testing for the Control Room and for the three filter trains of the Auxiliary Building, respectively, contain sections pertaining to the test of the HEPA filters. In these sections, there are steps related to determination of leakage using DOP. Procedure M9-TVP-CR-001 states "Repeat steps 7.4.3 through 7.4.6 until readings remain constant within ±5%. Use final constant readings for calculating leakage". (Similar statements are found in the procedures for the Auxiliary Building). The inspector noted that these procedures do not require the entry of the data obtained in these steps; therefore, no post-test review is possible to determine that this criterion was actually met before proceeding with the test. The licensee stated that appropriate instructions would be added to these procedures to facilitate review of the data, and thus ensure that this requirement was met.

(b) The air filtration system test procedures also include a section for determining the efficiency of carbon samples when tested for the removal of methyl iodide in laboratory tests. The Technical Specifications require this test to be done within 31 days after removal of the carbon sample from the filter train and state the minimum acceptable efficiency. The procedures provide instructions for recording the efficiency, but not the date when the test was performed. This test is performed by a contractor at its laboratory, which requires that the carbon samples be sent out for analysis. The SNGS air filtration test procedures did not require recording of the date when the analysis was performed to ensure compliance with the 31 day requirement.

These items will be reviewed in a future inspection of this area (272/84-34-01; 311/84-34-01).

The inspector noted that hand-written changes had been made on each of the air filtration in-place testing procedures performed by OTG during July, 1984. Specifically, these procedures are:

M9-TVP-CR-001, Rev. 0, Unit 1 Control Room Emergency Ventilation In Place Testing

M9-TVP-AB-011, Rev. 0, No. 11 Auxiliary Building Exhaust Ventilation Plus Charcoal In Place Testing

M9-TVP-AB-012, Rev. 0, No. 12 Auxiliary Building Exhaust Ventilation Plus Charcoal In Place Testing

M9-TVP-AB-013, Rev. 0, No. 13 Auxiliary Building Exhaust Ventilation In Place Testing

The licensee's Administrative Procedure 3, "On-the-Spot Change", requires that if changes are made to procedures while in use for the performance of tests, these changes must be documented on Form AP-3-1, and then must be subjected to post-change review and approval (or rejection) by the department head, the station quality assurance engineer, the SORC Chairman, and the station manager. The licensee stated that the administrative procedure was not followed for the changes to the air filtration test procedures. The inspector stated that failure to obtain the required approval for these on-the-spot changes is a violation of the SNGS Technical Specifications (272/84-34-02; 311/84-34-02).

The inspector reviewed records of air filtration system in-place tests for the following systems:

System	Unit	Performed by	Date Performed
Control Room Emergency Air Conditioning	1	OTG	7/18/84
Control Room Emergency Air Conditioning	2	Chemistry	1/4/84
Auxiliary Building 11	1	OTG	7/18/84
Auxiliary Building 21	2	Chemistry	1/5/84
Auxiliary Building 12	1	OTG	7/18/84
Auxiliary Building 22	2	Chemistry	1/5/84
Auxiliary Building 13	1	OTG	7/18/84
Auxiliary Building 23	2	Chemistry	1/6/84

The inspector also reviewed results of the visual examination of the Unit 1 systems listed above. The licensee stated that records of in-place tests for the Fuel Handling Area (Units 1 and 2) could not be located. In addition, the records of laboratory tests of carbon samples for methyl iodide (for all systems required by Technical Specifications) were incomplete and inconclusive relative to whether such tests were performed within the required 31 days. The licensee committed to locate the relevant records and to clarify the status of all required tests within one month following the conclusion of this inspection. The inspector stated that, pending location of the relevant records, clarification of the status of tests, and review of these issues by the NRC, this item will remain unresolved (272/84-34-03; 311/84-34-03).

7. Training and Qualifications

The inspector reviewed the training and qualification records of the licensee's Chemistry Technical Assistants.

The inspector determined that the Certificate of Qualification for a Chemistry Technical Assistant, which was on file in the Chemistry Department records, carried an expiration date of 6/25/84. The licensee stated

that a requalification of this employee had not been performed since this Certificate was issued. The inspector stated that the failure to requalify this Chemistry Technical Assistant is a violation of Technical Specifications (272/84-34-04; 311/84-34-04).

8. Unresolved Item

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during this inspection is discussed in Paragraph 6.

9. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) at the conclusion of the inspection at the site on September 21, 1984. The inspector summarized the purpose and the scope of the inspection and findings. At no time during this inspection was written material provided to the licensee by the inspector.